

ABSTRACT OF THE DISCLOSURE

A wireless local area network (LAN) is operated so that a mobile terminal (MT) transmits various power-related information over an air interface to a power status repository (PSR) of the wireless local area network (LAN). For example, in one aspect of the invention, the mobile terminal transmits power status information, the power status information having an indication of whether the mobile terminal is currently operating using battery power or line power. The power status information is transmitted at one of the following times: (1) upon power-up of the mobile terminal; (2) upon command issued from the power status repository; (3) upon establishment of a connection between the mobile terminal and the LAN; and (4) upon a change in power status for the mobile terminal. The power status repository (PSR) can take the form of an Access Point (AP) for an intranet, or another mobile terminal in the case of an ad hoc network. In differing embodiments, the power status information can either be transmitted as a dedicated message or in a message with other status information. In another aspect, the mobile terminal which transmits to the power status repository certain measurement capability information. The measurement capability information has an indication of whether the mobile terminal has a capacity to perform radio frequency measurements. For example, the measurement capability information can indicate one of low power of the mobile terminal or a power restriction on the mobile terminal. As another example, the measurement capability information can indicate a particular sleep mode of the mobile terminal. In accordance with yet another aspect of the invention, if the power status repository does not have sufficient measurements regarding radio frequency (in view, e.g., of power incapacitation by one or more mobile terminals (MTs) in its cell), the power status repository can modify (e.g., increase) a rate at which a frequency measurement command is transmitted to other mobile terminal(s) in the cell. In still another aspect of the invention, the mobile terminal determines a duration of a sleep cycle in accordance with the power status information of the mobile terminal.